

Claims**What is claimed is:**

1. A method for stably dimming a lamp light output level of a gas discharge lamp to a low lamp light output level without observable flicker, said method comprising:

receiving a signal indicative of a request to reduce said lamp light output level to said low lamp light output level;

comparing a measured value of a lamp parameter with a threshold value of said lamp parameter;

if the measured value of the lamp parameter is less than the threshold value of the lamp parameter, reducing the lamp light output level to the low lamp light output level; and

if the measured value of the lamp parameter is greater than or equal to the threshold value of the lamp parameter:

reducing the lamp light output level to an intermediate lamp light output level, wherein said intermediate lamp light output level is greater than said low lamp light output level; and

subsequently reducing the lamp light output level to the low lamp light output level in response to the measured value of the lamp parameter becoming less than the threshold value of the lamp parameter.

2. A method in accordance with claim 1, wherein said gas discharge lamp is a compact gas discharge lamp.

3. A method in accordance with claim 1, wherein said lamp parameter is a temperature of said lamp.
4. A method in accordance with claim 1, wherein said lamp parameter is a lamp arc voltage of said lamp.
5. A method in accordance with claim 1, wherein said lamp parameter is a lamp arc current of said lamp.
6. A method in accordance with claim 1, wherein said lamp parameter is a lamp arc power of said lamp.
7. A method in accordance with claim 1, wherein:
  - said measured lamp parameter is a value of elapsed time; and
  - said threshold lamp parameter is a predetermined amount of time.
8. A method in accordance with claim 1, wherein said low lamp light output level is equal to or less than approximately 1 percent of a full rated lamp light output level.
9. A method in accordance with claim 1, wherein said intermediate lamp light output level is within a range of greater than 1 percent to approximately 5 percent of a full rated lamp light output level.

10. A method in accordance with claim 1, wherein said act of increasing the lamp light output level to an intermediate lamp light output level comprises increasing a value of minimum lamp arc current.

11. A method in accordance with claim 1, wherein said act of subsequently reducing the lamp light output level to the low lamp light output level comprises decreasing a value of minimum lamp arc current.

12. A ballast for stably dimming a lamp light output level of a gas discharge lamp to a low lamp light output level without observable flicker, said ballast comprising:

a comparator circuit for:

comparing a measure signal indicative of a measured value of a lamp parameter with a threshold signal indicative of a threshold value of said lamp parameter; and

providing a compare signal indicative of said comparison; and

a clamp circuit for receiving said compare signal and for providing a clamp signal, wherein:

said clamp signal is indicative of a first minimum lamp arc current; if the measured value of the lamp parameter is less than the threshold value of the lamp parameter; and

said clamp signal is indicative of a second minimum lamp arc current if the measured value of the lamp parameter is greater than or equal to the threshold

value of the lamp parameter, said second minimum lamp arc current being greater than said first minimum lamp arc current

reducing the lamp light output level to an intermediate lamp light output level, wherein said intermediate lamp light output level is greater than said low lamp light output level; and

subsequently reducing the lamp light output level to the low lamp light output level in response to the measured value of the lamp parameter becoming less than the threshold value of the lamp parameter.

13. A ballast in accordance with claim 12, wherein said gas discharge lamp is a compact gas discharge lamp.

14. A ballast in accordance with claim 12, wherein said lamp parameter is indicative of one of a temperature of said lamp, a lamp arc voltage of said lamp, a lamp arc current of said lamp, and a lamp arc power of said lamp.

15. A ballast in accordance with claim 12, wherein:

said measured lamp parameter is a value of elapsed time; and

said threshold lamp parameter is a predetermined amount of time.

16. A ballast in accordance with claim 12, wherein said first minimum lamp arc current is capable of causing said lamp to provide a lamp light output level equal to or less than approximately 1 percent of a full rated lamp light output level of said lamp.

17. A ballast in accordance with claim 12, wherein said second minimum lamp arc current is capable of causing said lamp to provide a lamp light output level within a range of greater than 1 percent to approximately 5 percent of a full rated lamp light output level of said lamp.

18. A light fixture for stably dimming a lamp light output level of a gas discharge lamp to a low lamp light output level without observable flicker, said light fixture comprising:

a ballast comprising:

a comparator circuit for:

comparing a measure signal indicative of a measured value of a lamp parameter with a threshold signal indicative of a threshold value of said lamp parameter; and

providing a compare signal indicative of said comparison; and

a clamp circuit for receiving said compare signal and for providing a clamp signal, wherein:

said clamp signal is indicative of a first minimum lamp arc current; if the measured value of the lamp parameter is less than the threshold value of the lamp parameter; and

said clamp signal is indicative of a second minimum lamp arc current if the measured value of the lamp parameter is greater than or equal to the threshold value of the lamp parameter, said second minimum lamp arc current being greater than said first minimum lamp arc current

reducing the lamp light output level to an intermediate lamp light output level, wherein said intermediate lamp light output level is greater than said low lamp light output level; and

subsequently reducing the lamp light output level to the low lamp light output level in response to the measured value of the lamp parameter becoming less than the threshold value of the lamp parameter; and

said compact gas discharge lamp coupled to said ballast.

19. A light fixture in accordance with claim 18, wherein said gas discharge lamp is a compact gas discharge lamp.

20. A light fixture in accordance with claim 18, wherein said lamp parameter is indicative of one of a temperature of said lamp, a lamp arc voltage of said lamp, a lamp arc current of said lamp, and a lamp arc power of said lamp.

21. A light fixture in accordance with claim 18, wherein:

said measured lamp parameter is a value of elapsed time; and

said threshold lamp parameter is a predetermined amount of time.

22. A light fixture in accordance with claim 18, wherein said first minimum lamp arc current causes said lamp to provide a lamp light output level equal to or less than approximately 1 percent of a full rated lamp light output level of said lamp.

23. A light fixture in accordance with claim 18, wherein said second minimum lamp arc current causes said lamp to provide a lamp light output level within a range of greater than 1 percent to approximately 5 percent of a full rated lamp light output level of said lamp.

24. A method for assembling a light fixture for stably dimming a lamp light output level of a gas discharge lamp to a low lamp light output level without observable flicker, said method comprising:

providing a light fixture;

assembling into said light fixture a ballast that operates to:

receive a signal indicative of a request to reduce said lamp light output level to said low lamp light output level;

compare a measured value of a lamp parameter with a threshold value of said lamp parameter;

if the measured value of the lamp parameter is less than the threshold value of the lamp parameter, reduce the lamp light output level to the low lamp light output level;

if the measured value of the lamp parameter is greater than or equal to the threshold value of the lamp parameter:

reduce the lamp light output level to an intermediate lamp light output level, wherein said intermediate lamp light output level is greater than said low lamp light output level; and

subsequently reduce the lamp light output level to the low lamp light output level in response to the measured value of the lamp parameter becoming less than the threshold value of the lamp parameter.

25. A method in accordance with claim 24, wherein said gas discharge lamp is a compact gas discharge lamp.

26. A method in accordance with claim 24, wherein, said lamp parameter is one of a temperature of said lamp, a lamp arc voltage of said lamp, a lamp arc current of said lamp, and a lamp arc power of said lamp.

27. A method in accordance with claim 24, wherein:

said measured lamp parameter is a value of elapsed time; and

said threshold lamp parameter is a predetermined amount of time.

28. A method in accordance with claim 24, wherein, when assembled, said first minimum lamp arc current is capable of causing said lamp to provide a lamp light output level equal to or less than approximately 1 percent of a full rated lamp light output level of said lamp.

29. A method in accordance with claim 24, wherein, when assembled, said second minimum lamp arc current is capable of causing said lamp to provide a lamp light output level within a range of greater than 1 percent to approximately 5 percent of a full rated lamp light output level of said lamp.



30. A computer-readable medium encoded with a computer program code for directing a computer processor to stably dim a lamp light output level of a compact gas discharge lamp to a low lamp light output level without observable flicker, said program code comprising:

a receive code segment for causing said computer processor to receive a signal indicative of a request to reduce said lamp light output level to said low lamp light output level;

a compare code segment for causing said computer processor to compare a measured value of a lamp parameter with a threshold value of said lamp parameter;

a low level code segment for causing said computer processor to, if the measured value of the lamp parameter is less than the threshold value of the lamp parameter, reduce the lamp light output level to the low lamp light output level; and

an intermediate level code segment for causing said computer processor to, if the measured value of the lamp parameter is greater than or equal to the threshold value of the lamp parameter:

reduce the lamp light output level to an intermediate lamp light output level, wherein said intermediate lamp light output level is greater than said low lamp light output level; and

subsequently reduce the lamp light output level to the low lamp light output level in response to the measured value of the lamp parameter becoming less than the threshold value of the lamp parameter.

31. A computer-readable medium in accordance with claim 30, wherein said gas discharge lamp is a compact gas discharge lamp.

32. A computer-readable medium in accordance with claim 30, wherein said lamp parameter is one of a temperature of said lamp, a lamp arc voltage of said lamp, a lamp arc current of said lamp, and a lamp arc power of said lamp.

33. A computer-readable medium in accordance with claim 30, wherein:

said measured lamp parameter is a value of elapsed time; and

said threshold lamp parameter is a predetermined amount of time.

34. A computer-readable medium in accordance with claim 30, wherein said low lamp light output level is equal to or less than approximately 1 percent of a full rated lamp light output level.

35. A computer-readable medium in accordance with claim 30, wherein said intermediate lamp light output level is within a range of greater than 1 percent to approximately 5 percent of a full rated lamp light output level.

36. A computer-readable medium in accordance with claim 30, wherein said act of reducing the lamp light output level to an intermediate lamp light output level comprises increasing a value of minimum lamp arc current.

37. A computer-readable medium in accordance with claim 30, wherein said act of subsequently reducing the lamp light output level to the low lamp light output level comprises decreasing a value of minimum lamp arc current.